

HYDRAULIC CONTROL VALVE

Model IR-405-RZ

The BERMAD Hydraulic Control Valve is a hydraulically operated, diaphragm actuated control valve that opens and shuts in response to a local or remote pressure command.



[1] BERMAD Model IR-405-RZ opens upon local manual command.

Features & Benefits

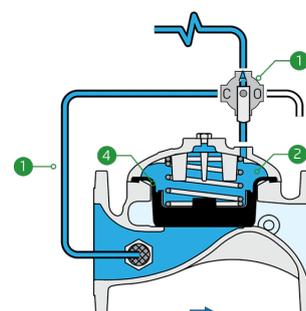
- Hydraulic Control Valve
 - Line pressure driven
 - Hydraulically controlled On/Off
- Advanced Hydro-Efficient Globe Design
 - Unobstructed flow path
 - Single moving part
 - High flow capacity
- Fully Supported & Balanced Diaphragm
 - Requires low opening and actuation pressure
 - Progressively restrains valve closing
 - Prevents diaphragm distortion
- User-Friendly Design
 - Simple in-line inception
 - Easy addition of control features

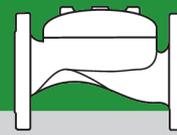
Typical Applications

- Automated Irrigation Systems
- Distribution Centers
- Irrigation Machines
- Low Supplied Pressure Irrigation Systems

Operation:

Line Pressure or Remote Command Pressure [1] is applied to the Control Chamber [2] through the Manual Selector [3]. This creates superior closing force that moves the Diaphragm Assembly [4] toward a closed position. Discharging pressure from the control chamber causes the line pressure acting on the diaphragm assembly to move the valve to an open position.





Technical Data

Pressure Rating:
16 bar

Operating Pressure Range:
0.5-16 bar

Materials

Body & Cover:
Cast iron (up to 8") Ductile iron (10" & 12")

Diaphragm:
NR, Nylon fabric reinforced

Spring:
Stainless Steel

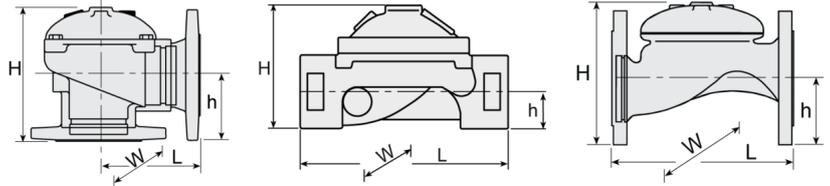
**Other materials are available on request*

Control Loop Accessories

Tubing and Fittings:
Reinforced Nylon and Brass

Technical Specifications

For other end connection types,
Please refer to [BERMAD](#) full engineering page.



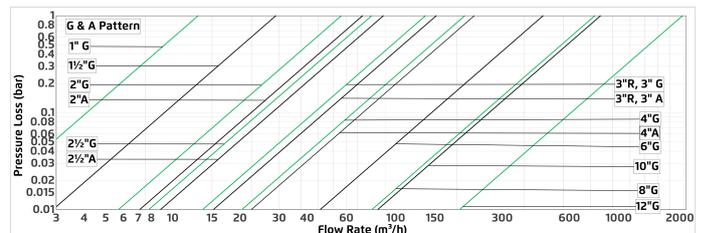
Size	Pattern	End Connection	Weight (Kg)	L (mm)	H (mm)	h (mm)	w	CCDV (Lit)	KV
1" ; DN25	Globe	Threaded	1.1	115	68	34	71	0.02	13
1½" ; DN40	Globe	Threaded	2	153	87	29	98	0.06	29
2" ; DN50	Globe	Threaded	4	180	114	39	119	0.113	57
2" ; DN50	Globe	Flanged	9	205	155	78	155	0.113	57
2" ; DN50	Globe	Grooved	5	205	108	31	119	0.113	57
2" ; DN50	Angle	Threaded	4.4	86	136	61	119	0.113	71
2" ; DN50	Angle	Flanged	9	120	160	83	155	0.113	71
2½" ; DN65	Globe	Threaded	5.7	210	132	45	129	0.179	78
2½" ; DN65	Globe	Flanged	10.5	205	178	89	178	0.179	78
2½" ; DN65	Angle	Threaded	5.8	110	180	93	131	0.179	88
3R" ; DN80R	Globe	Threaded	5.8	210	140	53	129	0.291	136
3R" ; DN80R	Globe	Flanged	12.1	210	200	100	200	0.291	136
3R" ; DN80R	Angle	Threaded	7	110	178	91	131	0.291	152
3" ; DN80	Globe	Threaded	13	255	165	55	170	0.291	136
3" ; DN80	Globe	Flanged	19	250	210	100	200	0.291	136
3" ; DN80	Globe	Grooved	10.6	250	155	46	170	0.291	136
3" ; DN80	Angle	Threaded	11	110	184	80	170	0.291	152
3" ; DN80	Angle	Flanged	17	153	205	101	200	0.291	152
3" ; DN80	Angle	Grooved	10	120	194	90	170	0.291	152
4" ; DN100	Globe	Flanged	28	320	242	112	223	0.668	204
4" ; DN100	Globe	Grooved	16.2	320	191	61	204	0.668	204
4" ; DN100	Angle	Flanged	26	160	223	112	223	0.668	225
4" ; DN100	Angle	Grooved	16	160	223	112	204	0.668	225
6" ; DN150	Globe	Flanged	68	415	345	140	306	1.973	458
6" ; DN150	Globe	Grooved	49	415	302	85	306	1.973	458
8" ; DN200	Globe	Flanged	125	500	430	170	365	3.858	781
10" ; DN250	Globe	Flanged	140	605	460	202	405	3.858	829
12" ; DN300	Globe	Flanged	290	725	635	242	580	13.75	1932

CCDV = Control Chamber Displacement Volume • Threaded = BSP & NPT are available.

Additional Features

Code	Description	Size Range
F	Large Control Filter	1½"-12" / DN40-300
I	Position Indicator Assembly	1½"-12" / DN40-300
M	Flow Stem	1½"-12" / DN40-300

Flow Chart



2-Way circuit "Added Head Loss" (for "V" below 2 m/s): 0.3 bar

Differential Pressure & Flow Calculation

$$\Delta P = \left(\frac{Q}{Kv} \right)^2$$

$Kv = m^3/h @ \Delta P \text{ of } 1 \text{ bar}$
 $Q = m^3/h$
 $\Delta P = \text{bar}$

